

### Abstract

The present invention relates to low-dispersion optical glass having a low glass-transition temperature suited to precision press molding, a press molding preform comprised of this glass, a method of manufacturing the same, an optical element, and a method of manufacturing the same. The optical glass comprises, given as molar percentages, 28 to 50 percent of  $P_2O_5$ ; more than 20 percent but not more than 50 percent of  $BaO$ ; 1 to 20 percent  $MgO$ ; a sum of  $Li_2O$ ,  $Na_2O$ , and  $K_2O$  exceeding 3 percent (with 0 to 25 percent of  $Li_2O$ , greater than or equal to 0 percent and less than 10 percent of  $Na_2O$ , and 0 to 12 percent of  $K_2O$ ); more than 0 percent but not more than 15 percent of  $ZnO$ ; 0 to 25 percent of  $B_2O_3$ ; 0 to 5 percent of  $Al_2O_3$ ; 0 to 8 percent of  $Gd_2O_3$ ; 0 to 20 percent of  $CaO$ ; 0 to 15 percent of  $SrO$ ; and 0 to 1 percent of  $Sb_2O_3$ ; with a sum of oxide contents of P, Ba, Mg, Li, Na, K, Zn, B, Al, Gd, Ca, Sr, and Sb being greater than or equal to 98 percent. The press molding preform is comprised of the optical glass. In the method of manufacturing a press molding preform, a glass melt gob of prescribed weight is separated from a glass melt flow, and the press molding preform comprised of the optical glass is formed with the prescribed weight. In the method of manufacturing an optical element, the press molding preform or the press molding preform manufactured by the above method is heated and precision press molded.